FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a Class B digital device , pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna

-Move the equipment away from the receiver

-Plug the equipment into an outlet on a circuit different from that to which the receiver is connected

-Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

This device complies with Part 15 of the FCC Rules. Operation is subjected to the following two conditions 1) this device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMbH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-7ZM

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN60555-2**		Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"
☐ **EN55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN61000-3-3*** ☒ **EN60555-3**		Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1**		Generic emission standard Part 1: Residual, commercial and light industry
		☒ **EN 50082-1**		Generic immunity standard Part 1: Residual, commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**		Generic emission standard Part 2: Industrial environment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**		Generic immunity standard Part 2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**		Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN 50091- 2**		EMC requirements for uninterruptible power systems (UPS)

☒ **CE marking**

$C\epsilon$ (EC conformity marking)

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature : *Rex Lin*

(Stamp)

Date : Jun. 10, 2000   Name : Rex Lin

7ZM

AMD^{TM} Athlon AGP Motherboard

USER'S MANUAL

How This Manual Is Organized

This manual is divided into the following sections:

1) Revision History	Manual revision information
2) Item Checklist	Product item list
3) Features	Product information & specification
4) Hardware Setup	Instructions on setting up the motherboard
5) Performance & Block Diagram	Product performance & block diagram
6) Suspend to RAM	Instructions STR installation
7) BIOS Setup	Instructions on setting up the BIOS software
8) Appendix	General reference

Table Of Content

Revision History

Revision	Revision Note	Date
2.2	Initial release of the 7ZM motherboard user's manual.	May.2000

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein. Third-party brands and names are the property of their respective owners.

May. 22, 2000 Taipei, Taiwan, R.O.C

Item Checklist

☑The 7ZM motherboard

☑Cable for IDE / floppy device

☑Diskettes or CD (TUCD) for motherboard driver & utility

☐Internal USB Cable (Optional)

☐Cable for SCSI device

☑7ZM user's manual

Summary Of Features

Form Factor	• 24.3 cm x 22.6 cm Micro ATX size form factor, 4 layers PCB.
CPU	• AMD Athlon (K7) Socket A Processor • 256K/64K 2nd cache on die • Supports 500MHz ~ 1GHz and faster
Chipset	Apollo KT133 ,consisting of: • VT8363 Memory/AGP/PCI Controller(PAC) • VT82C686A PCI Super-I/O Integrated Peripheral Controller (PSIPC)
Clock Generator	• ICS 9248-141 • 100/133 MHz system bus speeds (PCI 33MHz) • 105/110/115/133 MHz system bus speeds • Supports 100~133MHz
Memory	• 3 168-pin DIMM sockets. • Supports PC-100 / PC-133 SDRAM and VCM SDRAM • Supports up to 1.5GB DRAM • Supports only 3.3V SDRAM DIMM
I/O Control	• VT82C686A
Slots	• 1 AGP slot supports 4X mode & AGP 2.0 compliant • 3 PCI slot supports 33MHz & PCI 2.2 compliant • 1 AMR(Audio Modem Riser) slot
On-Board IDE	• 2 IDE bus master (DMA 33/ ATA 66)IDE ports for up to 4 ATAPI devices • Supports PIO mode 3, 4 (UDMA 33/ATA 66) IDE & ATAPI CD-ROM
On-Board Peripherals	• 1 floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes • 1 parallel ports supports SPP/EPP/ECP mode • 2 serial ports (COM A & COM B) • 4 USB ports • 1 IrDA connector for Fast IrDA
Hardware Monitor	• CPU/System fan revolution detect • CPU/Power/System temperature detect • System voltage detect (Vcore,VDD ,Vcc,+12V) • CPU overheat shutdown detect

To be continued...

PS/2 Connector	• PS/2® Keyboard interface and PS/2® Mouse interface
BIOS	• Licensed AMI BIOS, 2M bit flash ROM
Additional Features	• Support Wake-On-LAN (WOL) • Support Internal / External Modem Ring On • Support USB KB/MS Wake up from S3 • Includes 3 fan power connectors • Poly fuse for keyboard over-current protection • Support STR (Suspend-To-RAM) function

7ZM Motherboard Layout

CPU Speed Setup

The system bus speed is selectable at 100~133MHz. The user can select the system bus speed by DIP switch **SW1**.
Set System Bus Speed

SW1:   O : ON, X : OFF

FSB	1	2	3	4
95	O	O	X	O
100	X	O	X	X
105	X	O	O	X
110	O	X	O	X
113	X	X	O	O
115	X	X	X	O
117	X	X	O	X
133	X	X	X	X

Connectors

Game & Audio Port

GAME Port

Line Out   MIC

Line In
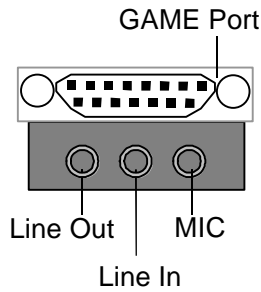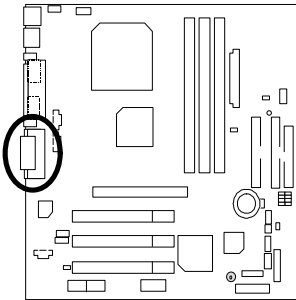
COM A / COM B / LPT Port

LPT PORT

COM A   COM B
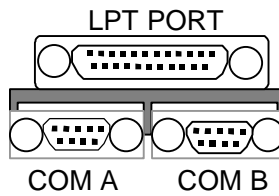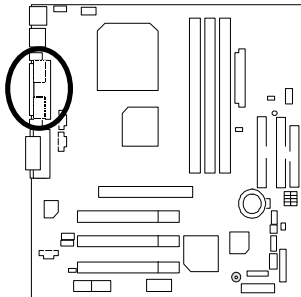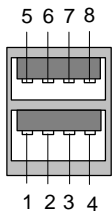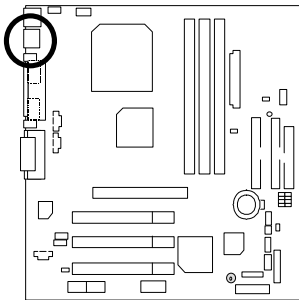
USB 1 Connector

Pin No.	Definition
1	USB V0
2	USB D0-
3	USB D0+
4	GND
5	USB V1
6	USB D1-
7	USB D1+
8	GND

USB 2 Connector
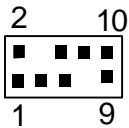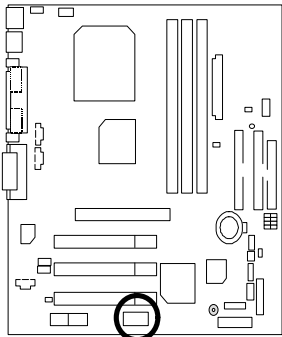
Pin No.	Definition
1	5V-SB
2	GND
3	USB D2-
4	NC
5	USB D2+
6	USB D3-
7	NC
8	USB D3+
9	GND
10	5V-SB

PS/2 Keyboard & PS/2 Mouse Connector

PS/2 Mouse

6   5

4   3

2   1
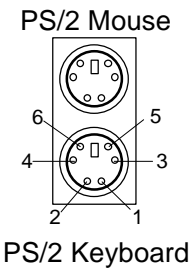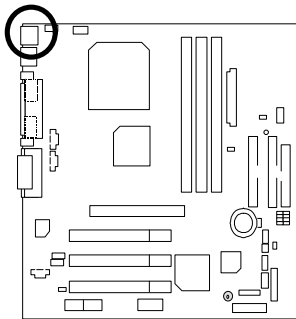
PS/2 Keyboard

PS/2 Mouse/Keyboard	
Pin No.	Definition
1	Data
2	NC
3	GND
4	VCC(+5V)
5	Clock
6	NC

J3: CPU Fan

1
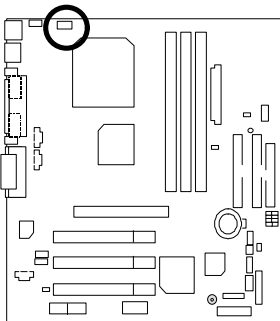
Pin No.	Definition
1	Control
2	+12V
3	SENSE

JP6: Power Fan
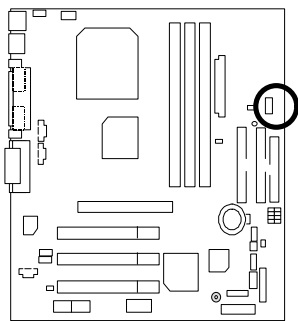
Pin No.	Definition
1	Control
2	+12V
3	NC

J2: Sysem Fan
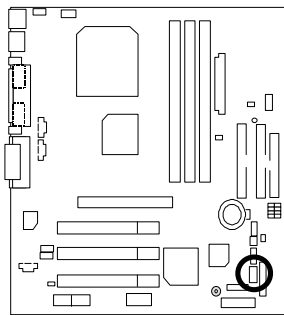
Pin No.	Definition
1	Control
2	+12V
3	SENSE

ATX Power
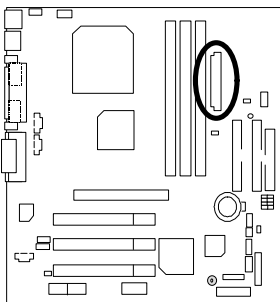
Pin No.	Definition
3,5,7,13, 15-17	GND
1,2,11	3.3V
4,6,19,20	VCC
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB stand by+5V
14	PS-ON(Soft On/Off)

Floppy Port
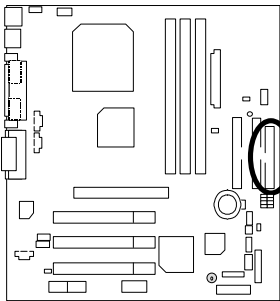
Red Line

FDD1

IDE1(Primary), IDE2(Secondary) Port

Red Line

IDE 1 IDE 2
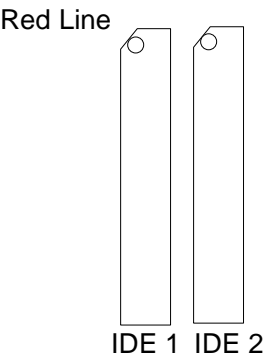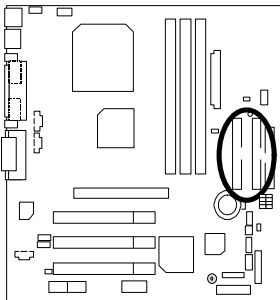
J8 TEL: The connector is for Modem with internal voice connector

1
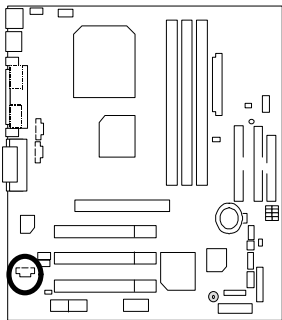
Pin No.	Definition
1	Signal-In
2	GND
3	GND
4	Signal-Out

J7 : AUX_IN
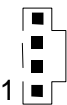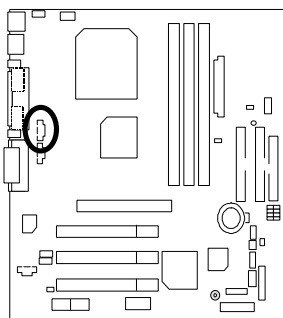
Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

J9 : CD Audio Line In
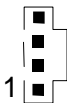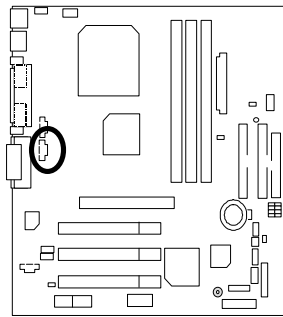
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

J13 : Ring Power On (Internal Modem Card Wake Up)
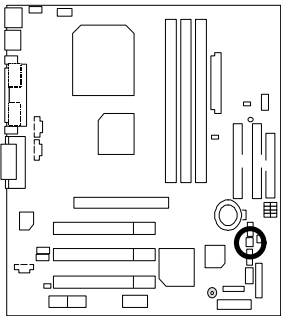
Pin No.	Definition
1	Signal
2	GND

J12: Wake On LAN
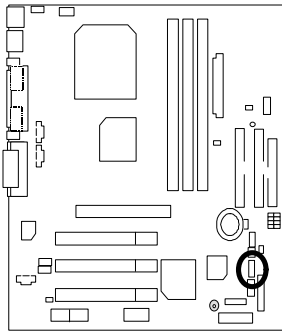
Pin No.	Definition
1	+5V SB
2	GND
3	Signal

JP8 / LED1: STR LED Connector & DIMM LED

STR LED Connector External.

1 ■ ■

+ ●● DIMM LED

J4: IR

1 ■ ■ ■ ■
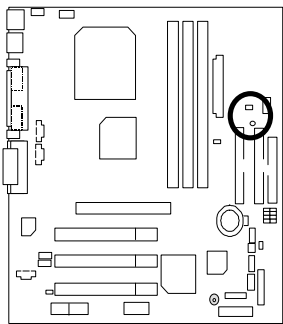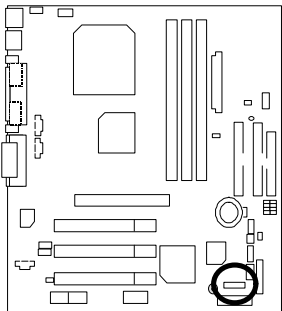
Pin No.	Definition
1	IR Data Output
2	GND
3	IR Data Input
4	NC
5	POWER (+)

Panel and Jumper Definition

J2 : 2x11 Pins Jumper
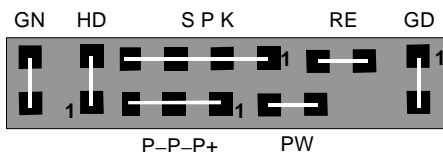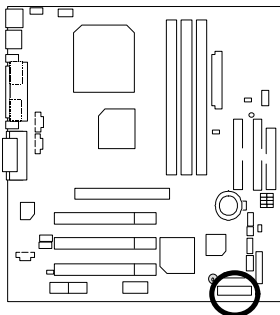
GN (Green Switch)	Open: Normal Operation
	Close: Entering Green Mode
GD (Green LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(–)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(–)
SPK (Speaker Connector)	Pin 1: VCC(+)
	Pin 2- Pin 3: NC
	Pin 4: Data(–)
RE (Reset Switch)	Open: Normal Operation
	Close: Reset Hardware System
P+P–P–(Power LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(–)
	Pin 3: LED cathode(–)
PW (Soft Power Connector)	Open: Normal Operation
	Close: Power On/Off

J16 /J17/J18 : AMR (Primary or Secondary) Select (Optional)

(AMR→ Audio Modem Riser)
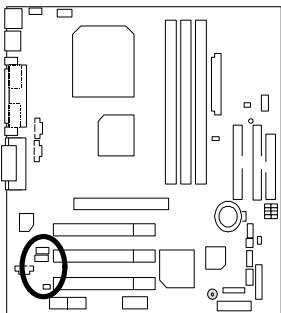
1 ▣ J18

1 ▣ J17

1 ▣ J16

	J16	J17	J18
Onboard AC97	ON	1-2	1-2
AMR (Primary)	OFF	3-4	3-4
Onboard AC97 MR (Secondary) (Default)	ON	1-2 3-4	1-2

JP4 :USB Device Wake up Selection

1 ▣
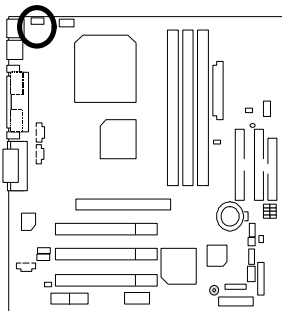
Pin No.	Definition
1-2 Close	Normal (Default)
2-3 Close	USB Device Wake up

(If you want to use "**USB KB Wakeup from S3-S5**" function, you have to set the BIOS setting "USB KB Wakeup from S3-S5" enabled, and the jumper " **JP4**" enabled)

*(Power on the computer and as soon as memory counting starts, press <Del>. You will enter BIOS Setup. Select the item "**POWER MANAGEMENT SETUP**", then select "**USB KB Wakeup from S3-S5**". Remember to save the setting by pressing "ESC" and choose the "SAVE & EXIT SETUP" option.)

JP7:STR Function Enabled
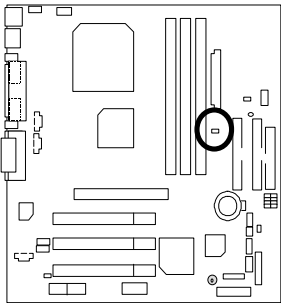
Pin No.	Definition
Open	Normal (Default)
Close	STR Enabled

JP9 : Write Protect Function
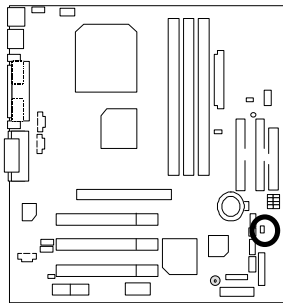
Pin No.	Definition
ON	Write Protect Enable
OFF	Write Protect Disable (Default)

BAT1 : Battery
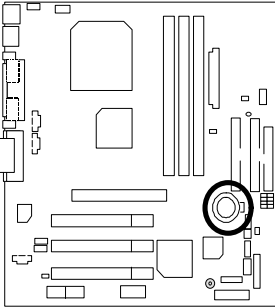
☞ Danger of explosion if battery is incorrectly replaced.

☞ Replace only with the same or equivalent type recommended by the manufacturer.

☞ Dispose of used batteries according to the manufacturer's instructions.

Performance List

The following performance data list is the testing results of some popular benchmark testing programs.

These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

- CPU   AMD Thunderbird 700MHz processor
- DRAM   (128x1) MB SDRAM (APACER LGSG M72V66841ET75 9931)
- CACHE SIZE   256KB included in CPU
- DISPLAY   Gigabyte GF2560
- STORAGE   Onboard IDE (Quantum KA13600AT)
- O.S.   Windows NT^{TM} 4.0 SP6
- DRIVER   Display Driver at 1024 x 768 x 64K colors x 75Hz.
                 VIA IDE driver Ver. 2.1.46

Processor	AMD Thunderbird 700 (100x7)
Winbench99	
CPU mark 99	67.4
FPU Winmark 99	3840
Business Disk Winmark 99	5840
Hi-End Disk Winmark 99	12500
Business Graphics Winmark 99	396
Hi-End Graphics Winmark 99	772
Winstone99	
Business Winstone 99	43.4
Hi-End Winstone 99	43.6

Block Diagram

Socket A

100 MHz

AGP 2X/4X

System Bus 100MHz

VT8363

66MHz

66MHz

100 / 133MHz

100 / 133MHz

3.3V SDRAM

100 / 133MHz

33MHz

ICS 9248-141

3 PCI

33MHz

ATA66 IDE Channels

33MHz

14.318MHz

48MHz

4 USB Ports

VT82C 686A

Game Port

COM Ports

LPT Ports

AC97 CODEC

PS/2   IR   Floppy

AMR
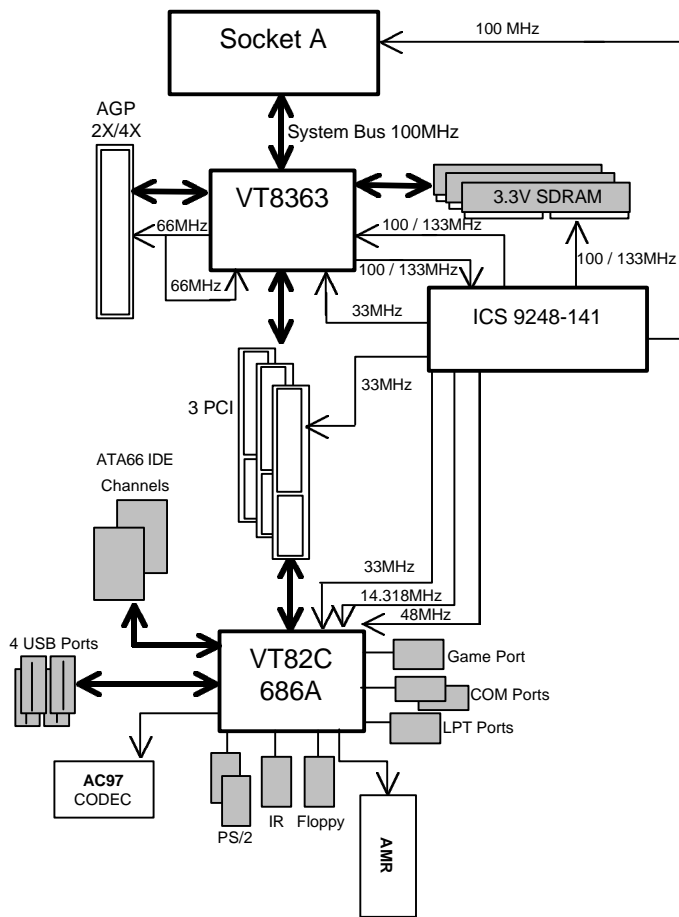
Suspend To RAM Installation

A.1 Introduce STR function:

Suspend-to-RAM (STR) is a Windows 98 ACPI sleep mode function. When recovering from STR (S3) sleep mode, the system is able, in just a few seconds, to retrieve the last "state" of the system before it went to sleep and recover to that state. The "state" is stored in memory (RAM) before the system goes to sleep. During STR sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various "wake up" triggers or signals, respectively.

A.2 STR function Installation

Please use the following steps to complete the STR function installation.

Step-By-Step Setup

Step 1:

To utilize the STR function, the system must be in Windows 98 ACPI mode.

Putting Windows 98 into ACPI mode is fairly easy.

Setup with Windows 98 CD:

A.   Insert the Windows 98 CD into your CD-ROM drive, select Start, and then Run.

B.   Type (without quotes) **"D:\setup /p j"** in the window provided. Hit the enter key or click OK¡ In Windows 98 second edition version, all the bios version dated 12/01/99 or later are ACPI compatible. Just type" D:\Setup", the operating system will be installed as ACPI mode.¡ z

C.   After setup completes, remove the CD, and reboot your system

(This manual assumes that your CD-ROM device drive letter is D:).

Step 2:

(If you want to use STR Function, please set jumper JP7 Closed.)
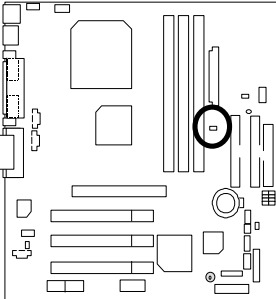
Pin No.	Definition
Open	Normal (Default)
Close	STR Enabled

Step 3:

Power on the computer and as soon as memory counting starts, press <Del>. You will enter BIOS Setup. Select the item *"POWER MANAGEMENT SETUP"*, then select *"ACPI Sleep Type : S3 / STR"*. Remember to save the settings by pressing "ESC" and choose the *"SAVE & EXIT SETUP"* option.

Congratulation! You have completed the installation and now can use the STR function.

A.3 How to put your system into STR mode?

There are two ways to accomplish this:

1.　　Choose the "Stand by" item in the "Shut Down Windows" area.

　　　　A.　　Press the "Start" button and then select "Shut Down"

　　　　B.　　Choose the "Stand by" item and press "OK"
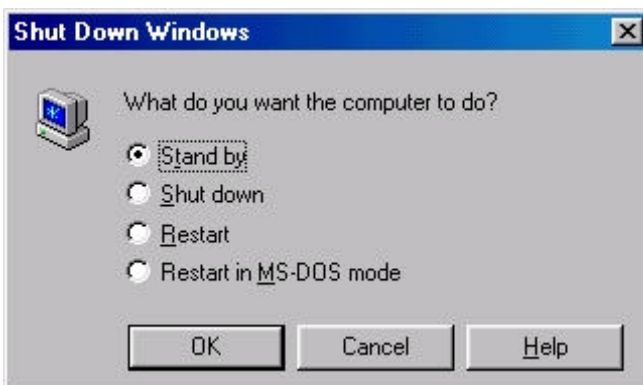
2. Define the system "power on" button to initiate STR sleep mode:

A. Double click "My Computer" and then "Control Panel"
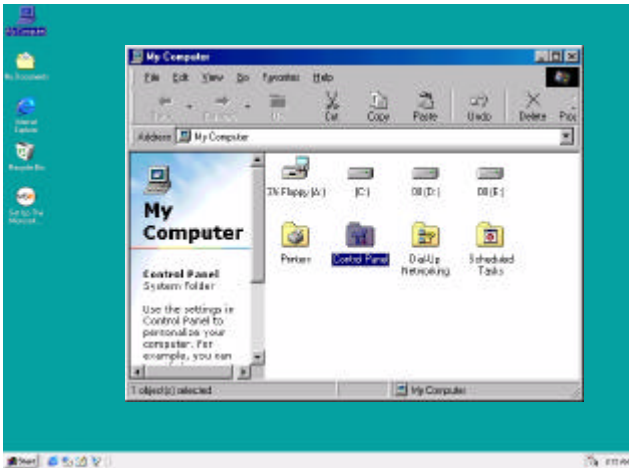
B. Double click the " Power Management" item.
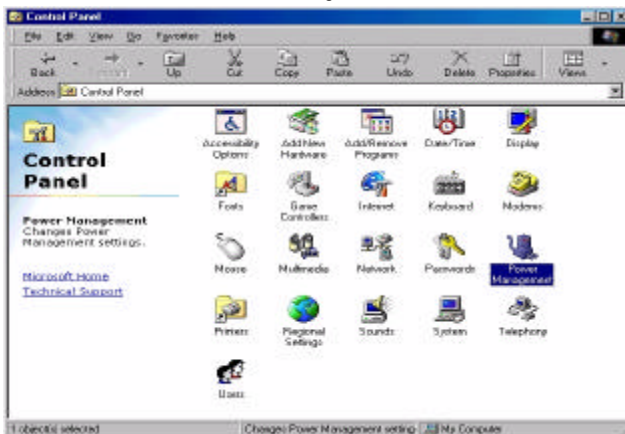
C.   Select the "Advanced" tab and "Standby" mode in Power Buttons.
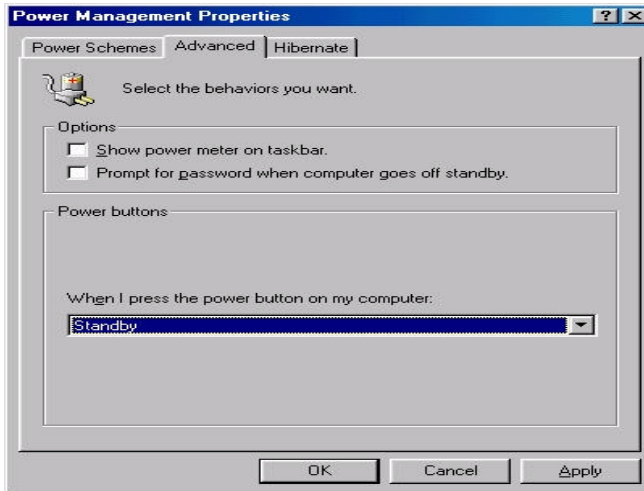
Step 4:

Restart your computer to complete setup.

Now when you want to enter STR sleep mode, just momentarily press the "Power on" button.

A.4 How to recover from the STR sleep mode?

There are five ways to "wake up" the system:

1. Press the "Power On" button.
2. Use the "Mouse Power On" function.
3. Use the "Resume by Alarm" function.
4. Use the "Modem Ring On" function.
5. Use the "Wake On LAN" function.

A.5 Notices :

1.   In order for STR to function properly, several hardware and software requirements must be satisfied:

   A.   Your ATX power supply must comply with the ATX 2.01 specification (provide more than 720 mA 5V Stand-By current).

   B.   Your SDRAM must be PC-100 compliant.

2.   Jumper JP8 is provided to connect to the STR LED in your system chassis.   [Your chassis may not provide this feature.] The STR LED will be illuminated when your system is in STR sleep mode.

STR LED Connector External.

1 ■ ■

+ ●● DIMM LED
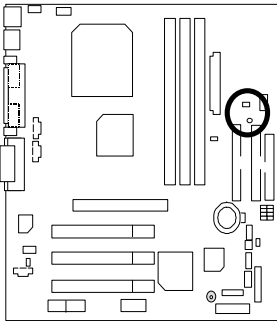
Memory Installation

The motherboard has 3 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot .The DIMM module can only fit in one direction due to the two notch. Memory size can vary between sockets.

Install memory in any combination table:

DIMM	168-pin SDRAM DIMM Modules	
DIMM 1	Supports 16 / 32 / 64 / 128 / 256 / 512 MB	X 1 pcs
DIMM 2	Supports 16 / 32 / 64 / 128 / 256 / 512 MB	X 1 pcs
DIMM 3	Supports 16 / 32 / 64 /128 / 256 / 512 MB	X 1 pcs

¡ Total System Memory (Max 1.5GB)

BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Power ON the computer and press <Del> immediately will allow you to enter Setup. If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" bottom on the system case. You may also restart by simultaneously press <Ctrl> – <Alt>– <Del> keys.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Reserved
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
<F7>	Load the Setup Defaults.
<F8>	Reserved
<F9>	Reserved
<F10>	Save all the CMOS changes, only for Main Menu

GETTING HELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu

Once you enter AMI BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from nine setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21	
(C) 1999 American Megatrends, Inc. All Rights Reserved	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	HARDWARE MONITOR SETUP
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP/PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit　　　↑↓←→ : Select Item　　　(Shift) F2 : Change Color　　　F5 : Old Values	
F6 : Load BIOS Defaults　　　　F7: Load Setup Defaults　　　F10: Save & Exit	
Time, Date, Hard Disk Type, …	

Figure 1: Main Menu

- **Standard CMOS Setup**

   This setup page includes all the items in standard compatible BIOS.

- **BIOS Features Setup**

   This setup page includes all the items of AMI special enhanced features.

- **Chipset Features Setup**

  This setup page includes all the items of chipset special features.

- **Power Management Setup**

  This setup page includes all the items of Green function features.

- **PnP/PCI Configurations**

  This setup page includes all the configurations of PCI & PnP ISA resources.

- **Load BIOS Defaults**

  Bios Defaults indicates the value of the system parameter which the system would be in the safe configuration.

- **Load Setup Defaults**

  Setup Defaults indicates the value of the system parameter which the system would be in the most appropriate configuration.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Hardware Monitor Setup**

  This setup page is auto detect fan and temperature status.

- **Supervisor password**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- **User password**

  Change, set, or disable password. It allows you to limit access to the system.

- **IDE HDD auto detection**

  Automatically configure hard disk parameters.

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Setup

The items in Standard CMOS Features Menu (Figure 2) are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrows to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

```
                    AMIBIOS SETUP – STANDARD CMOS SETUP
               ( C ) 1999 American Megatrends, Inc. All Rights Reserved

Date (mm/dd/yyyy) : Tue   Jan 25, 2000
Time (hh/mm/ss)   : 10:36:24
                  TYPE    SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE

Pri Master   :   Auto
Pri Slave    :   Auto
Sec Master   :   Auto
Sec Slave    :   Auto

Floppy Drive A:  1.44 MB 3 ½              Base Memory : 640 Kb
Floppy Drive B:  Not Installed            Other Memory: 384 Kb
                                          Extended Memory: 30Mb
Boot Sector Virus Protection : Disabled   Total Memory: 31Mb

Month:    Jan – Dec                            ESC : Exit
  Day:     01  – 31                            ↑↓   : Select Item
 Year :   1990– 2099                           PU/PD/+/– : Modify
                                               (Shift)F2   : Color
```

Figure 2: Standard CMOS Setup

- **Date**

    The date format is <Week>, <Month>, <Day>, <Year>.

Week	The week, from Sun to Sat, determined by the BIOS and is display-only
Month	The month, Jan. Through Dec.
Day	The day, from 1 to 31 (or the maximum allowed in the month)
Year	The year, from 1990 through 2099

- **Time**

   The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

- **IDE Primary Master, Slave / Secondary Master, Slave**

   The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type which will automatically detect HDD type.

   Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

   If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

CYLS.	Number of cylinders
HEADS	number of heads
PRECOMP	write precomp
LANDZONE	Landing zone
SECTORS	number of sectors

   If a hard disk has not been installed select NONE and press <Enter>.

- **Drive A type / Drive B type**

   The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

None	No floppy drive installed
360K, 5.25 in.	5.25 inch PC-type standard drive; 360K byte capacity.
1.2M, 5.25 in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
720K, 3.5 in.	3.5 inch double-sided drive; 720K byte capacity
1.44M, 3.5 in.	3.5 inch double-sided drive; 1.44M byte capacity.
2.88M, 3.5 in.	3.5 inch double-sided drive; 2.88M byte capacity.

- **Boot Sector Virus Protection**

    If it is set to enable, the category will flash on the screen when there is any attempt to write to the boot sector or partition table of the hard disk drive. The system will halt and the following error message will appear in the mean time. You can run anti-virus program to locate the problem.

Enabled	Activate automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table
Disabled	No warning message to appear when anything attempts to access the boot sector or hard disk partition table. **(Default Value)**

- **Memory**

    The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

    Base Memory

    The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

    The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

    Extended Memory

    The BIOS determines how much extended memory is present during the POST.

    This is the amount of memory located above 1 MB in the CPU's memory address map.

    Other Memory

    This refers to the memory located in the 640 K to 1024 K address space. This is memory that can be used for different applications.

    DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM

BIOS Features Setup

```
·······················································································
              AMIBIOS SETUP – BIOS FEATURES SETUP
         ( C ) 1999 American Megatrends, Inc. All Rights Reserved
·······················································································
1st Boot Device            Floppy
2nd Boot Device            IDE-0
3rd Boot Device            CDROM
S.M.A.R.T. for Hard Disks  Disabled
BootUp Num-Lock            On
Floppy Drive Seek          Disabled
Password Check             Setup




                                    ESC : Quit        ↑↓→ ←: Select Item
                                    F1   : Help        PU/PD+/-/ : Modify
                                    F5   :Old Values        (Shift)F2:Color
                                    F6   : Load BIOS Defaults
                                    F7   : Load SETUP Defaults
```

Figure 3: BIOS Features Setup

- **1st / 2nd / 3rd Boot Device**

    The default value is Floppy or LS-120 / ZIP A: or ATAPI ZIP C: or CDROM or SCSI or NET WORK / I20 or IDE-0~IDE-3 or Disabled.

Floppy	Boot Device by Floppy.
LS-120 / ZIP A:	Boot Device by LS-120 / ZIP A:.
CDROM	Boot Device by CDROM.
SCSI	Boot Device by SCSI.
NETWORK	Boot Device by NETWORK.
IDE-0~IDE-3	Boot Device by IDE-0~IDE-3.
Disabled	Boot Device by Disabled.
ATAPI ZIP C:	Boot Device by ATAPI ZIP C:.

- **S.M.A.R.T. for Hard Disks**

Enable	Enable S.M.A.R.T. Hard for Disks.
Disable	Disable S.M.A.R.T. Hard for Disks. **(Default Value)**

- **Boot Up Num-Lock**

On	Keypad is number keys. **(Default Value)**
Off	Keypad is arrow keys.

- **Floppy Drive Seek**

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360 type is 40 tracks while 720 , 1.2 and 1.44 are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720, 1.2 or 1.44 drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360. **(Default Value)**

- **Password Check**

Setup	Set Password Check to Setup. **(Default Value)**
Always	Set Password Check to Always.

Chipset Features Setup

```
AMIBIOS SETUP – CHIPSET FEATURES SETUP
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```

*********DRAM Timing***		Memory Address Drive	24 mA
Top Performance	Disabled	CAS# Drive	12 mA
DRAM Frequency	100MHz	RAS# Drive	24 mA
SDRAM CAS# Latency	3		
AGP Mode	4X		
AGP Comp. Driving	Auto		
Manual AGP Comp. Driving	DB		
AGP Aperture Size	64MB		
PCI Delay Transaction	Enabled		
ClkGen Spread Spectrum	Enabled		
USB Controller	Enabled		
USB Legacy Support	Disabled		
BIOS Flash Protection	Disabled		
DRAM Drive Strength	Auto		
MD Bus Strength	High	ESC : Quit	↑↓→ ←: Select Item
CAS Bus Strength	High	F1 : Help	PU/PD+/-/ : Modify
Delay DRAM Read Latch	1.0ns	F5 :Old Values	(Shift)F2:Color
Memory Data Drive	8 mA	F6 : Load BIOS Defaults	
SDRAM Command Drive	24 mA	F7 : Load SETUP Defaults	

Figure 4: Chipset Features Setup

- **Top Performance**

Disabled	Top Performance Disabled. **(Default Value)**
Enabled	Top Performance Enabled.

- **DRAM Frequency**

100MHz	Set DRAM Frequency is 100MHz**(Default Value)**.
133MHz	Set DRAM Frequency is 133MHz

- **SDRAM CAS# Latency**

2	For Fastest SDRAM DIMM module.
3	For Slower SDRAM DIMM module. **(Default Value)**.
Auto	Detect SDRAM CAS# Latency by SPD.

• **AGP Mode**

4X	Set AGP Mode is 4X. **(Default Value)**
1X	Set AGP Mode is 1X.
2X	Set AGP Mode is 2X.

• **AGP Comp. Driving**

Auto	Set AGP Comp. Driving is Auto. **(Default Value)**
Manual	Set AGP Comp. Driving is Manual.

If AGP Comp. Driving is Manual.

Manual AGP Comp. Driving :	00~FF

• **AGP Aperture Size**

4MB	Set AGP Aperture Size to 4MB.
8MB	Set AGP Aperture Size to 8 MB.
16MB	Set AGP Aperture Size to 16 MB.
32MB	Set AGP Aperture Size to 32 MB.
64MB	Set AGP Aperture Size to 64 MB. **(Default Value)**
128MB	Set AGP Aperture Size to 128 MB.
256MB	Set AGP Aperture Size to 256 MB.

• **PCI Delay Transaction**

Enabled	Enabled Delay Transaction. **(Default Value)**
Disabled	Disabled Delay Transaction.

● **ClkGen Spread Spectrum**

Disabled	Disabled ClkGen Spread Spectrum.
Enabled	Enabled ClkGen Spread Spectrum. **(Default Value)**

• **USB Controller**

Enable	Enable USB Controller. **(Default Value)**
Disable	Disable USB Controller.

• **USB Legacy Support**

Keyboard/FDD	Set USB Legacy Support Keyboard / Floppy.
KB/Mouse/FDD	Set USB Legacy Support Keyboard / Mouse /Floppy.
Disabled	Disabled USB Legacy Support Function. **(Default Value)**

- **BIOS Flash Protection**

Enable	BIOS Flash Write Protection.
Disable	Normal. **(Default Value)**

- **DRAM Drive Strength**

Auto	Set DRAM Drive Strength Auto.
Manual	Set DRAM Drive Strength Manual.

If DRAM Drive Strength is Manual, then you can adjust item below.

- **MD Bus Strength**

High	Set MD Bus Strength High.
Low	Set MD Bus Strength Low.

- **CAS Bus Strength**

High	Set CAS Bus Strength High.
Low	Set CAS Bus Strength High.

- **Delay DRAM Read Latch**

1.0ns	Set DRAM Read Latch Delay 1.0ns.
1.5ns	Set DRAM Read Latch Delay 1.5ns.
0.5ns	Set DRAM Read Latch Delay 0.5ns.
No delay	Set DRAM Read Latch No delay.

- **Memory Data Drive**

6 mA	Set Memory Data Drive 6 mA
8 mA	Set Memory Data Drive 8 mA

- **SDRAM Command Drive**

16 mA	Set SDRAM Command Drive 16 mA
24 mA	Set SDRAM Command Drive 24 mA

- **Memory Address Drive**

16 mA	Set Memory Address Drive 16 mA
24 mA	Set Memory Address Drive 24 mA

- **CAS# Drive**

8 mA	Set CAS# Drive 8 mA
12 mA	Set CAS# Drive 12 mA

- **RAS# Drive**

16 mA	Set RAS# Drive 16 mA
24 mA	Set RAS# Drive 24 mA

Power Management Setup

```
╔═══════════════════════════════════════════════════════════════════╗
║              AMIBIOS SETUP – POWER MANAGEMENT SETUP                ║
║         ( C ) 1999 American Megatrends, Inc. All Rights Reserved   ║
╠═══════════════════════════════════════════════════════════════════╣
║ ACPI Standby State        S1/POS  │ RTC Alarm Date     Every Day   ║
║ USB Dev Wakeup From S3    Disabled│ RTC Alarm Hour     00          ║
║ Suspend Time Out(Minute)  Disabled│ RTC Alarm Minute   00          ║
║ Display Activity          Ignore  │ RTC Alarm Second   00          ║
║ IRQ3                      Monitor │                                ║
║ IRQ4                      Monitor │                                ║
║ IRQ5                      Ignore  │                                ║
║ IRQ7                      Monitor │                                ║
║ IRQ9                      Ignore  │                                ║
║ IRQ10                     Ignore  │                                ║
║ IRQ11                     Ignore  │                                ║
║ IRQ13                     Ignore  │                                ║
║ IRQ14                     Monitor │                                ║
║ IRQ15                     Ignore  │                                ║
║ Soft-Off by Power Button  Instant-Off                             ║
║ System after AC Back      Soft-Off│ ESC : Quit      ↑↓→←: Select Item ║
║ Modem Use IRQ             4       │ F1  : Help      PU/PD+/-/ : Modify ║
║ Resume On Ring/LAN        Enabled │ F5  :Old Values    (Shift)F2:Color ║
║ PME Event Wake Up         Enabled │ F6  : Load BIOS Defaults        ║
║ Resume On RTC Alarm       Disabled│ F7  : Load SETUP Defaults       ║
╚═══════════════════════════════════════════════════════════════════╝
```

Figure 5: Power Management Setup

- **ACPI Sleep Type**

S1/POS	Set ACPI sleep type is S1. **(Default Value)**
S3/STR	Set ACPI sleep type is S3.

● **USB Dev Wakeup From S3**

USB Dev Wakeup From S3 can be set when ACPI Sleep Type set to S3/STR.

Enabled	Enable USB Dev Wakeup From S3.
Disabled	Disable USB Dev Wakeup From S3 **(Default Value)**.

• **Suspend Time Out (Minute.)**

Disabled	Disabled Suspend Time Out Function. **(Default Value)**
1	Enabled Suspend Time Out after 1min.
2	Enabled Suspend Time Out after 2min.
4	Enabled Suspend Time Out after 4min.
8	Enabled Suspend Time Out after 8min.
10	Enabled Suspend Time Out after 10min.
20	Enabled Suspend Time Out after 20min.
30	Enabled Suspend Time Out after 30min.
40	Enabled Suspend Time Out after 40min.
50	Enabled Suspend Time Out after 50min.
60	Enabled Suspend Time Out after 60min.

• **Display Activity**

Ignore	Ignore Display Activity. **(Default Value)**
Monitor	Monitor Display Activity.

• **IRQ 3~IRQ15**

Ignore	Ignore IRQ3 ~IRQ15.
Monitor	Monitor IRQ3~IRQ15.

• **Soft-off by Power Button**

Instant-off	Soft switch ON/OFF for POWER ON/OFF. **(Default Value)**
Delay 4 sec	Soft switch on 4sec for power OFF.

• **System after AC Back Function**

Memory	This function depends on computer status.
Soft-Off	Set System Soft-Off Status. **(Default Value)**
Full-On	Set System Full-On Status.

• **Modem USE IRQ**

3, 4, **(Default Value)** 5, 7, N/A

• **Resume On Ring / LAN**

Disabled	Disabled Resume On Ring / LAN.
Enabled	Enabled Resume On Ring / LAN. **(Default Value)**

- **PME Event Wake Up**

Disabled	Disable PME Event Wake Up.
Enabled	Enabled PME Event Wake Up. **(Default Value)**

- **RTC Alarm Power On**

You can set "RTC Alarm Power On" item to enabled and key in Data/time to power on

system.

Disabled	Disable this function. **(Default Value)**
Enabled	Enable alarm function to POWER ON system.

If RTC Alarm Lead To Power On is Enabled.

RTC Alarm Date :	Every Day,1~31
RTC Alarm Hour:	0~23
RTC Alarm Minute :	0~59
RTC Alarm Second :	0~59

PnP/PCI Configurations

```
┌─────────────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP – PNP / PCI CONFIGURATION                   │
│        ( C ) 1999 American Megatrends, Inc. All Rights Reserved        │
├─────────────────────────────────────────────────────────────────────┤
│  PnP OS Installed            No                                        │
│  Reset Configuration Data    No                                        │
│  VGA Boot from               AGP                                       │
│   PCI AGP Palette Snoop      Disabled                                  │
│                                                                        │
│                                                                        │
│                                                                        │
│                                                                        │
│                                                                        │
│                                                                        │
│                                                                        │
│                                     ESC: Quit      ↑↓→ ←: Select Item  │
│                                     F1  : Help     PU/PD+/-/ : Modify  │
│                                     F5  :Old Values  (Shift)F2:Color   │
│                                     F6  : Load BIOS Defaults           │
│                                     F7  : Load SETUP Defaults          │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 6: PnP/PCI Configuration

- **PnP OS Installed**

Yes	Enable PNP OS Installed function.
No	Disable PNP OS Installed function. **(Default Value)**

- **Reset Configuration Data**

No	Disable this function. **(Default Value)**
Yes	Clear PnP information in ESCD & update DMI data.

- **VGA Boot From**

AGP	Primary Graphics Adapter From AGP. **(Default Value)**
PCI	Primary Graphics Adapter From PCI.

- **PCI/VGA Palette Snoop**

Enabled	For having Video Card on ISA Bus and VGA Card on PCI Bus.
Disabled	For VGA Card only. **(Default Value)**

Load BIOS Defaults

```
┌─────────────────────────────────────────────────────────────────┐
│            AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21              │
│       ( C ) 1999 American Megatrends, Inc. All Rights Reserved    │
├───────────────────────────────┬───────────────────────────────────┤
│ STANDARD CMOS SETUP           │ INTEGRATED PERIPHERALS            │
│ BIOS FEATURES SETUP           │ HARDWARE MONITOR SETUP            │
│ CHIPSET FEATURES SETUP        │ SUPERVISOR PASSWORD               │
│ POWER MANAGEMENT SETUP        │ USER PASSWORD                     │
│ PNP/PCI CONFIGU    Load BIOS Defaults (Y/N)? N          TION      │
│ LOAD BIOS DEFAULTS            │ SAVE & EXIT SETUP                 │
│ LOAD SETUP DEFAULTS           │ EXIT WITHOUT SAVING               │
├───────────────────────────────┴───────────────────────────────────┤
│ ESC : Quit      ↑↓→← : Select Item   (Shift) F2 : Change Color    F5 : Old Values │
│ F6 : Load BIOS Defaults        F7: Load Setup Defaults       F10: Save & Exit │
├─────────────────────────────────────────────────────────────────┤
│            Load BIOS Default except Standard CMOS Setup          │
└─────────────────────────────────────────────────────────────────┘
```

Figure 7: Load BIOS Defaults

- **Load BIOS Defaults**

   BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Load Setup Defaults

```
                AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21
              ( C ) 1999 American Megatrends, Inc. All Rights Reserved

  STANDARD CMOS SETUP            INTEGRATED PERIPHERALS

  BIOS FEATURES SETUP            HARDWARE MONITOR SETUP

  CHIPSET FEATURES SETUP         SUPERVISOR PASSWORD

  POWER MANAGEMENT SETUP         USER PASSWORD

  PNP/PCI CONFIGU    Load SETUP Defaults (Y/N)? N      CTION

  LOAD BIOS DEFAULTS             SAVE & EXIT SETUP

  LOAD SETUP DEFAULTS            EXIT WITHOUT SAVING

  ESC : Quit      ↑↓→← : Select Item    (Shift) F2 : Change Color    F5 : Old Values
  F6 : Load BIOS Defaults       F7: Load Setup Defaults      F10: Save & Exit

                 Load Setup Default except Standard CMOS Setup
```

Figure 8: Load Setup Defaults

- **Load Setup Defaults**

    Selecting this field loads the factory defaults for BIOS and Chipset Features which the
    system automatically detects.

Integrated Peripherals

```
╔══════════════════════════════════════════════════════════════════════╗
║              AMIBIOS SETUP – INTEGRATED PERIPHERALS                     ║
║          ( C ) 1999 American Megatrends, Inc. All Rights Reserved       ║
╠══════════════════════════════════════════════════════════════════════╣
║  OnBoard Serial Port A          Auto                                    ║
║  OnBoard Serial Port B          Auto                                    ║
║   Serial PortB Mode             Normal                                  ║
║    *Duplex Mode                 N/A                                     ║
║  OnBoard Parallel Port          Auto                                    ║
║   Parallel Port Mode            ECP                                     ║
║   Parallel Port DMA             Auto                                    ║
║   Parallel Port IRQ             Auto                                    ║
║  AC97 Audio                     Auto                                    ║
║  MC97 Modem                     Auto                                    ║
║                                                                         ║
║  OnBoard Legacy Audio           Enabled                                 ║
║    Sound Blaster                Disabled                                ║
║      SB I/O Base Address        220h-22Fh                               ║
║      SB IRQ Select              5                                       ║
║      SB DMA Select              1          ESC: Quit      ↑↓→←: Select Item║
║  MPU-401                        Disabled   F1  : Help     PU/PD+/-/ : Modify║
║    MPU-401 I/O Address          330h-333h  F5  :Old Values  (Shift)F2:Color║
║  Game Port(200h-207h)           Enabled    F6  : Load BIOS Defaults     ║
║                                            F7  : Load SETUP Defaults    ║
╚══════════════════════════════════════════════════════════════════════╝
```

Figure 9: Integrated Peripherals

- **On Board Serial Port A**

Auto	BIOS will automatically setup the port A address. **(Default Value)**
3F8/COM1	Enable on Board Serial port A and address is 3F8.
2F8/COM2	Enable on Board Serial port A and address is 2F8.
3E8/COM3	Enable on Board Serial port A and address is 3E8.
2E8/COM4	Enable on Board Serial port A and address is 2E8.
Disabled	Disable on Board Serial port A.

- **On Board Serial Port B**

Auto	BIOS will automatically setup the port B address. **(Default Value)**
3F8/COM1	Enable on Board Serial port B and address is 3F8.
2F8/COM2	Enable on Board Serial port B and address is 2F8.
3E8/COM3	Enable on Board Serial port B and address is 3E8.
2E8/COM4	Enable on Board Serial port B and address is 2E8.
Disabled	Disable on Board Serial port B.

- **Serial Port B Mode**

Normal	Normal operation. **(Default Value)**
IrDA	Onboard I/O chip supports IRDA
ASK IR	Onboard I/O chip supports ASK IR.

- **Duplex Mode**

Half Duplex	IR Function Duplex Half.
N/A	Disabled this function **(Default Value)**.
Full Duplex	IR Function Duplex Full.

- **OnBoard Parallel port**

378	Enable On Board LPT port and address is 378.
278	Enable On Board LPT port and address is 278.
3BC	Enable On Board LPT port and address is 3BC.
Auto	Set On Board LPT port is Auto. **(Default Value)**
Disabled	Disable On Board LPT port.

- **Parallel Port Mode**

EPP	Using Parallel port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port. **(Default Value)**
Normal	Normal Operation.
EPP+ECP	Using Parallel port as Enhanced Parallel Port & Extended Capabilities Port.

- **Parallel Port DMA**

Auto	Set Auto to parallel port mode DMA Channel. . **(Default Value)**.
3	Set Parallel Port DMA is 3.
1	Set Parallel Port DMA is 1.
0	Set Parallel Port DMA is 0.

- **Parallel Port IRQ**

7	Set Parallel Port IRQ is 7.
Auto	Set Auto to parallel Port IRQ DMA Channel. . **(Default Value)**.
5	Set Parallel Port IRQ is 5.

- **AC97 Audio**

Auto	Enabled On Board AC'97 Audio. **(Default Value)**
Disabled	Disabled On Board AC'97 Audio.

- **MC97 Modem**

Auto	Enabled On Board MC'97 Modem. **(Default Value)**
Disabled	Disabled On Board MC'97 Modem.

- **OnBorard Legacy Audio**

Enabled	Enabled OnBoard Legacy Audio. **(Default Value)**
Disabled	Disabled OnBoard Legacy Audio.

- **Sound Blaster**

Enabled	Enabled Sound Blaster.
Disabled	Disabled Sound Blaster. **(Default Value)**

- **SB I/O Base Address**

220h-22Fh	Set SB I/O Base Address is 220h-22Fh. **(Default Value)**.
280h-28Fh	Set SB I/O Base Address is 280h-28Fh.
260h-26Fh	Set SB I/O Base Address is 260h-26Fh.
240h-24Fh	Set SB I/O Base Address is 240h-24Fh.

- **SB IRQ Select**

IRQ 9 / 5 / 7/ 10**(Default Value: 5)**.

- **SB DMA Select**

DMA 0 / 1 / 2/ 3**(Default Value: 1)**.

- **MPU-401**

Enabled	Enabled MPU-401.
Disabled	Disabled MPU-401. **(Default Value)**.

Ps. When Force back joystick is used, MPU-401 needs to be Enable.

- **MUP-401 I/O Address**

330h-333h	Set MUP-401 I/O Address is 330h-333h. **(Default Value)**.
300h-303h	Set MUP-401 I/O Address is 300h-303h.
310h-313h	Set MUP-401 I/O Address is 310h-313h.
320h-323h	Set MUP-401 I/O Address is 320h-323h.

- **Game Port (200h-207h)**

Disabled	Disabled Game Port (200h-207h)
Enabled	Enabled Game Port (200h-207h) **(Default Value)**.

Hardware Monitor

```
..................................................................................
                    AMIBIOS SETUP – HARDWARE MONITOR SETUP
              ( C ) 1999 American Megatrends, Inc. All Rights Reserved
..................................................................................
 ACPI Shut Down Temp.        Disabled
 CPU Temperature             32°C/89°F
 System Temperature          32°C/89°F
 CPU Fan Speed               7123 RPM
 System Fan Speed            0 RPM
 Vcore                       1.6 V
 VDD                         3.3 V
 Vcc3                        3.312 V
 +5.000V                     5.030 V
 +12.000V                    11.923 V



                                        ESC: Quit          ↑↓→ ←: Select Item
                                        F1  : Help         PU/PD+/-/ : Modify
                                        F5  :Old Values    (Shift)F2:Color
                                        F6  : Load BIOS Defaults
                                        F7  : Load Setup Defaults
```

Figure 10: Hardware Monitor

- **ACPI Shutdown Temp. (°C / °F)**

  (This function will be effective only for the operating systems that support ACPI Function.)

Disabled	Disable ACPI Shutdown function. **(Default Value)**
60°C / 140°F	Monitor CPU Temp. at 60°C / 140°F, if Temp. > 60°C / 140°F system will automatically power off.
65°C / 149°F	Monitor CPU Temp. at 65°C / 149°F, if Temp. > 65°C / 149°F system will automatically power off.
70°C / 158°F	Monitor CPU Temp. at 70°C / 158°F, if Temp. > 70°C / 158°F system will automatically power off.
75°C / 167°F	Monitor CPU Temp. at 75°C / 167°F, if Temp. > 75°C / 167°F system will automatically power off.

- **Current CPU Temp. (°C / °F)**

  Detect CPU Temperature automatically.

- **Current System Tem. (°C / °F)**

  Detect System Temperature automatically.

- **Case Status**

    If the case is closed, "Case Status" will show "Closed".
    If the case have been opened, "Case Opened" will show "Open".

- **Current CPU FAN Speed**

    Detect CPU Fan speed status automatically .

- **Current System FAN Speed**

    Detect System Fan speed status automatically .

- **Current Voltage (V) VCORE / VDD / +3.3V / +12V / +5V**

    Detect system's voltage status automatically.

Set Supervisor / User Password

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

```
        AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21
        ( C ) 1999 American Megatrends, Inc. All Rights Reserved

STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

BIOS FEATURES SETUP              HARDWARE MONITOR SETUP

CHIPSET FEATURES SETUP           SUPERVISOR PASSWORD

POWER MANAGEMENT SETUP           USER PASSWORD

PNP/PCI CONFIGUR    Enter new supervisor password:    ON

LOAD BIOS DEFAULTS               SAVE & EXIT SETUP

LOAD SETUP DEFAULTS              EXIT WITHOUT SAVING

ESC : Quit    ↑↓→← : Select Item   (Shift) F2 : Change Color    F5 : Old Values
F6 : Load BIOS Defaults       F7: Load Setup Defaults       F10: Save & Exit

              Chang /Set /Disabled Password
```

Figure 11: Password Setting

Type the password, up to eight characters, and press <Enter>. The password typed now will clear the previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

If you select "Always" at "Password Check" Option in BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu. If you select "Setup" at "Password Check" Option in BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

IDE HDD AUTO Detection

```
                    AMIBIOS SETUP – STANDARD CMOS SETUP
              ( C ) 1999 American Megatrends, Inc. All Rights Reserved

 Date (mm/dd/yyyy) : Tue Jan 25, 2000
 Time (hh/mm/ss)   : 10:36:24
           TYPE    SIZE  CYLS  HEAD  PRECOMP  LANDZ SECTOR   MODE

 Pri Master   : Not Installed
 Pri Slave    : Not Installed
 Sec Master : Not Installed
 Sec Slave   : Not Installed

 Floppy Drive A:   1.44 MB 3 ½        Base Memory : 640 Kb
 Floppy Drive B:   Not Installed      Other Memory: 384 Kb
                                      Extended Memory: 31Mb
 Boot Sector Virus Protection : Disabled    Total Memory: 32Mb

 Month:    Jan – Dec                  ESC : Exit
   Day:      01  – 31                 ↑↓  : Select Item
  Year :   1990– 2099                 PU/PD/+/–  : Modify
                                      (Shift)F2     : Color
```

Figure 12: IDE HDD Auto Detection

Type "Y" will accept the H.D.D. parameter reported by BIOS.

Type "N" will keep the old H.D.D. parameter setup. If the hard disk cylinder number is over 1024, then the user can select LBA mode or LARGER mode for DOS partition larger than 528 MB.

Save & Exit Setup

```
┌─────────────────────────────────────────────────────────────────┐
│            AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21             │
│      ( C ) 1999 American Megatrends, Inc. All Rights Reserved    │
├──────────────────────────────┬──────────────────────────────────┤
│ STANDARD CMOS SETUP          │ INTEGRATED PERIPHERALS            │
│                              │                                   │
│ BIOS FEATURES SETUP          │ HARDWARE MONITOR SETUP            │
│                              │                                   │
│ CHIPSET FEATURES SETUP       │ SUPERVISOR PASSWORD              │
│                              │                                   │
│ POWER MANAGEMENT SETUP       │ USER PASSWORD                     │
│                              │                                   │
│ PNP/PCI CONFIG               TION                                │
│            SAVE to CMOS and EXIT(Y/N)? Y                         │
│ LOAD BIOS DEF                                                    │
│                                                                  │
│ LOAD SETUP DEFAULTS          │ EXIT WITHOUT SAVING               │
├──────────────────────────────┴──────────────────────────────────┤
│ ESC : Quit    ↑↓→← : Select Item   (Shift) F2 : Change Color   F5 : Old Values │
│ F6 : Load BIOS Defaults      F7: Load Setup Defaults     F10: Save & Exit │
├─────────────────────────────────────────────────────────────────┤
│               Save Data to CMOS & Exit Setup                    │
└─────────────────────────────────────────────────────────────────┘
```

Figure 13: Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.

Type "N" will return to Setup Utility.

Exit Without Saving

```
┌─────────────────────────────────────────────────────────────────┐
│           AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.21               │
│      ( C ) 1999 American Megatrends, Inc. All Rights Reserved     │
├──────────────────────────────────┬──────────────────────────────┤
│  STANDARD CMOS SETUP             │  INTEGRATED PERIPHERALS       │
│                                  │                               │
│  BIOS FEATURES SETUP             │  HARDWARE MONITOR SETUP       │
│                                  │                               │
│  CHIPSET FEATURES SETUP          │  SUPERVISOR PASSWORD          │
│                                  │                               │
│  POWER MANAGEMENT SETUP          │  USER PASSWORD                │
│                                  │                               │
│  PNP/PCI CONFIG        ┌─────────────────────────┐   CTION       │
│                        │  Quit without saving (Y/N) ? N          │
│  LOAD BIOS DEFA        └─────────────────────────┘               │
│                                  │                               │
│  LOAD SETUP DEFAULTS             │  EXIT WITHOUT SAVING          │
├──────────────────────────────────┴──────────────────────────────┤
│  ESC : Quit      ↑↓→← : Select Item    (Shift) F2 : Change Color      F5 : Old Values │
│  F6 : Load BIOS Defaults        F7: Load Setup Defaults        F10: Save & Exit │
├─────────────────────────────────────────────────────────────────┤
│                   Abandon all Datas & Exit Setup                  │
└─────────────────────────────────────────────────────────────────┘
```

Figure 14: Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS.

Type "N" will return to Setup Utility.

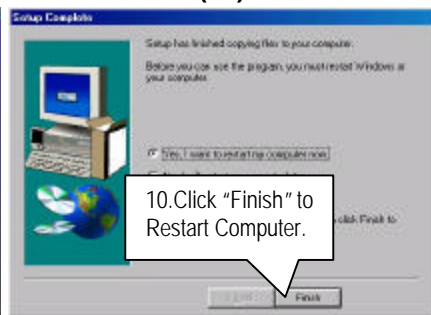# Appendix

Appendix A : VIA Chipsets Driver Installation

A.VIA 4 in 1 Service Pack Utility:
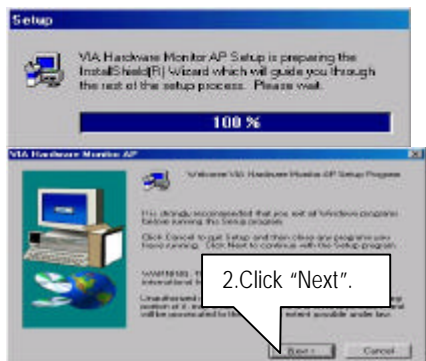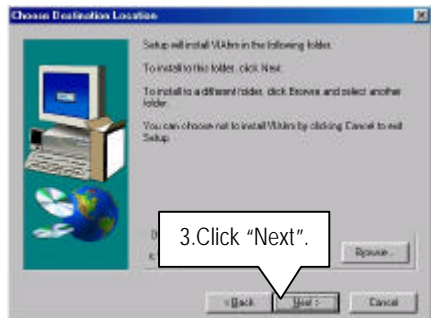
Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.
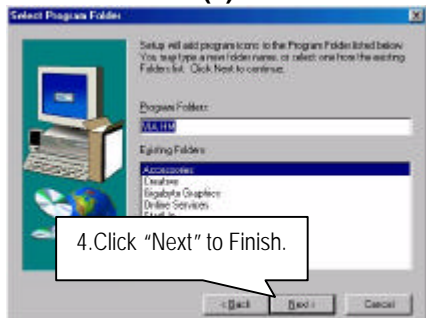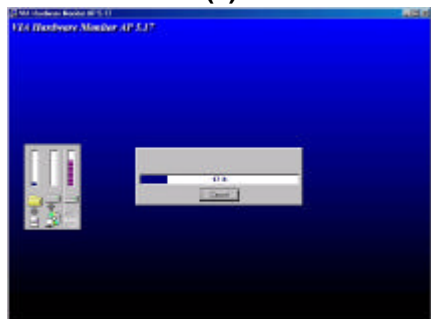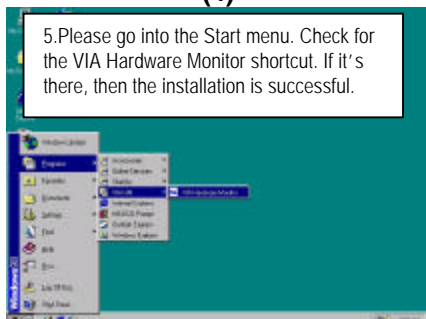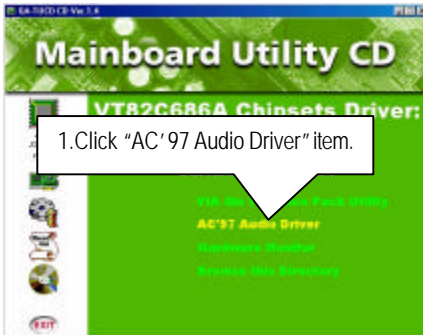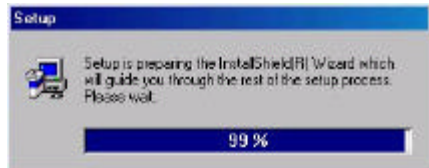

1.Click "VIA 4in 1 Service Pack Utility" item.

(1)

(2)

2.Click "Next".

(3)

3.Click "Yes".

(4)

4.Click "Next".

(5)

5.Click "Next".

(6)
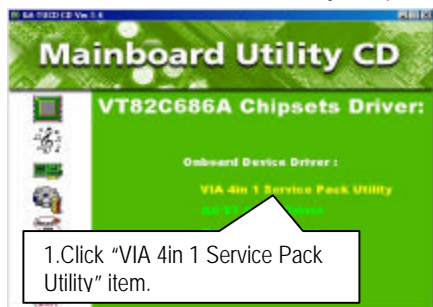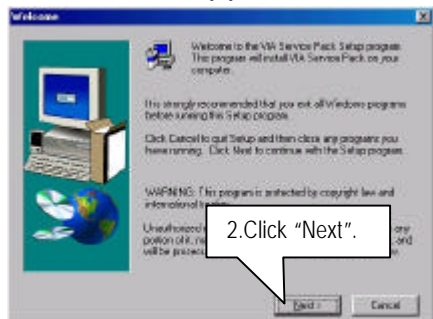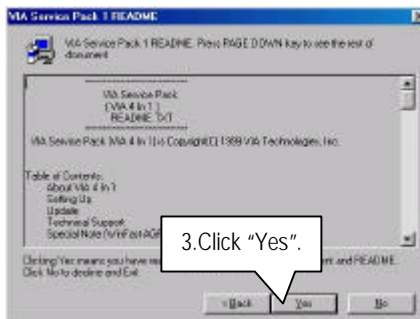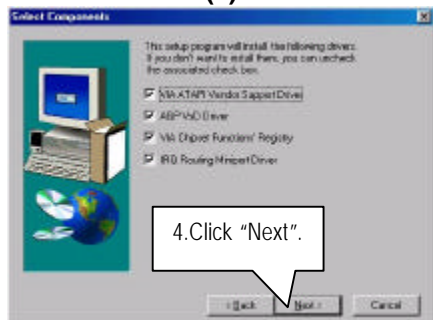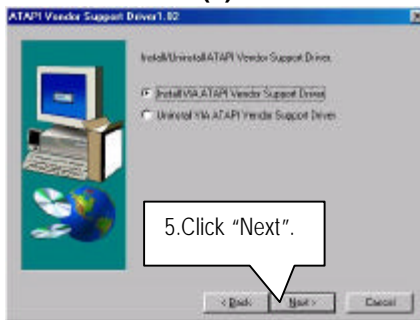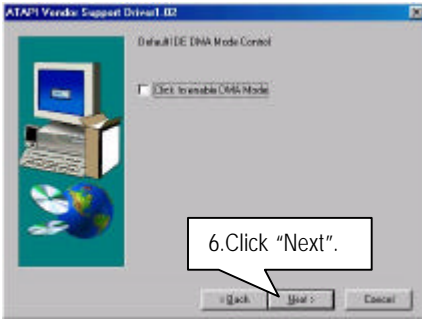
Appendix

(7)
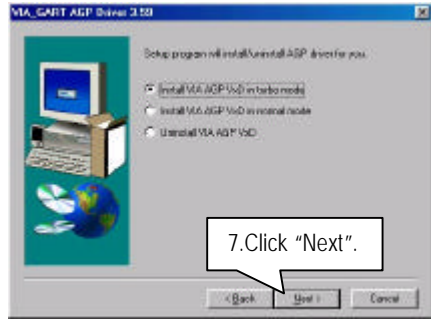
(8)
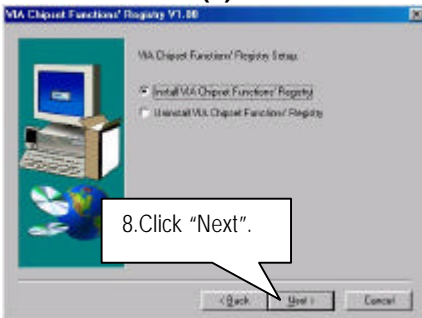
(9)
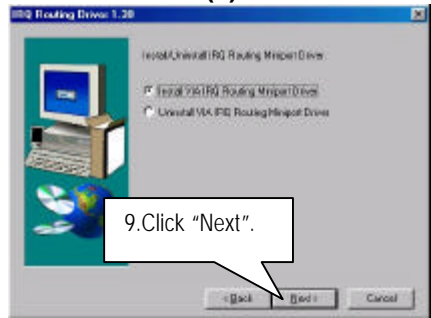
(10)
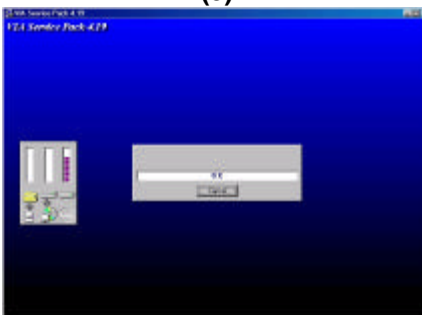
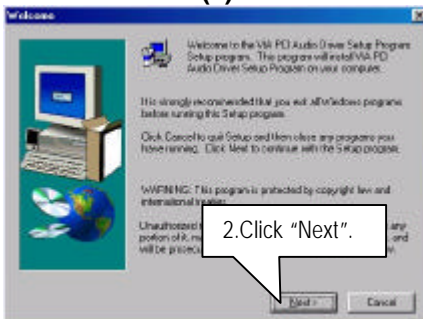
(11)

(12)

B. Hardware Monitor:

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.

(1)

1.Click "Hardware Monitor" item.

2.Click "Next".

(2)

3.Click "Next".

(3)

4.Click "Next" to Finish.

(4)

(5)

5.Please go into the Start menu. Check for the VIA Hardware Monitor shortcut. If it's there, then the installation is successful.

(6)

Appendix C : AC'97 Audio Driver

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.
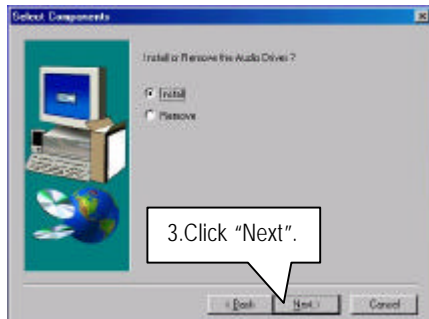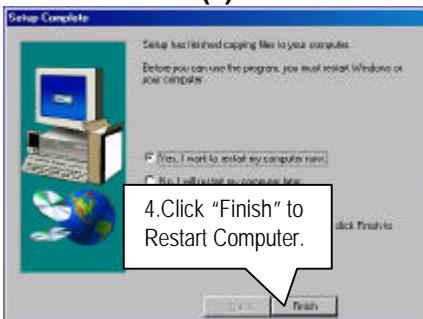

1.Click "AC'97 Audio Driver" item.

(1)

(2)

2.Click "Next".

(3)

3.Click "Next".

(4)

4.Click "Finish" to Restart Computer.

(5)

Appendix D: BIOS Flash Procedure

BIOS update procedure:

✓ Please check your BIOS vendor (AMI or AWARD) on the motherboard.

✓ It is recommended you copy the AWDFlash.exe or AMIFlash.exe in driver CD (D:\>Utility\BIOSFlash) and the BIOS binary files into the directory you made in your hard disk.¡ i.e:C:\>Utility\ (C:\>Utility : denotes the driver and the directory where you put the flash utilities and BIOS file in.)¡ j

✓ Restart your computer into MS-DOS mode or command prompt only for Win95/98, go into the directory where the new BIOS file are located use the utility AWDFlash.exe or AMIFlash.exe to update the BIOS.

✓ Type the following command once you have enter the directory where all the files are located C:\utility\ AWDFlash or AMIFlash <filename of the BIOS binary file intended for flashing>

✓ Once the process is finished, reboot the system

☛Note: Please download the newest BIOS from our website (www.gigabyte.com.tw) or contact your local dealer for the file.

Appendix E: Issues To Beware Of When Installing AMR

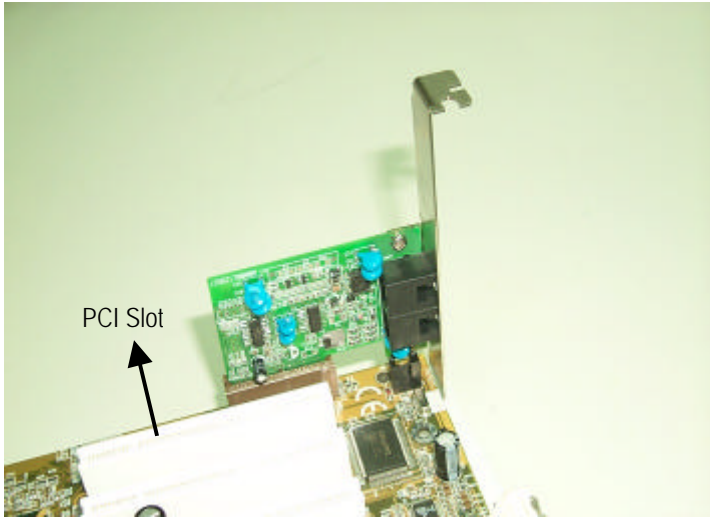Please use inverse AMR card like the one in order to avoid mechanical problem. (See Figure A)

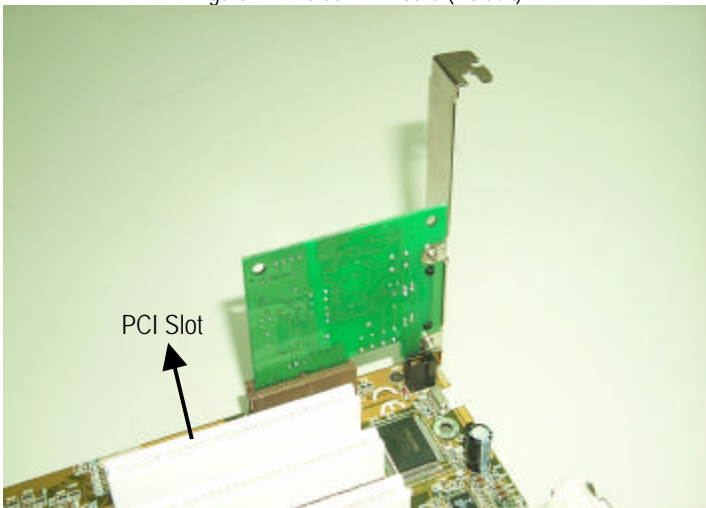Figure A: Inverse AMR Card (Default)

Figure B: Non inverse AMR Card

Appendix F: Acronyms

Acor.	Meaning
ACPI	Advanced Configuration and Power Interface
POST	Power-On Self Test
LAN	Local Area Network
ECP	Extended Capabilities Port
APM	Advanced Power Management
DMA	Direct Memory Access
MHz	Megahertz
ESCD	Extended System Configuration Data
CPU	Central Processing Unit
SMP	Symmetric Multi-Processing
USB	Universal Serial Bus
OS	Operating System
ECC	Error Checking and Correcting
IDE	Integrated Dual Channel Enhanced
SCI	Special Circumstance Instructions
LBA	Logical Block Addressing
EMC	Electromagnetic Compatibility
BIOS	Basic Input / Output System
SMI	System Management Interrupt
IRQ	Interrupt Request
NIC	Network Interface Card
A.G.P.	Accelerated Graphics Port
S.E.C.C.	Single Edge Contact Cartridge
LED	Light Emitting Diode
EPP	Enhanced Parallel Port
CMOS	Complementary Metal Oxide Semiconductor
I/O	Input / Output
ESD	Electrostatic Discharge
OEM	Original Equipment Manufacturer
SRAM	Static Random Access Memory
VID	Voltage ID
DMI	Desktop Management Interface
MIDI	Musical Interface Digital Interface
IOAPIC	Input Output Advanced Programmable Input Controller
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
PAC	PCI A.G.P. Controller
AMR	Audio Modem Riser

To be continued...

Acor.	Meaning
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
DRM	Dual Retention Mechanism
ISA	Industry Standard Architecture
MTH	Memory Translator Hub
CRIMM	Continuity RIMM